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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,568	07/08/2003	Ronald de Man	1	9029

7590 03/16/2007

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER	
MOORE, TERENCE J	
ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/615,568	MAN, RONALD DE	
	Examiner	Art Unit	
	Terence Moore	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9 July 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement submitted on July 9, 2003 has been considered by the Examiner and made of record in the application file.

Specification

3. The disclosure is objected to because of the following informalities:

(a) On **page 2**, **line 23**, the acronym GVRP should be spelled out since this is its first occurrence in the disclosure.

(b) On **page 4**, **lines 21-22**, the sentence "The invention is further illustrated by the following, non-limiting drawing" should read "The invention is further illustrated by the following, non-limiting drawings", since there are a plurality of drawings.

(c) On **page 4**, **lines 23**, **24**, **26**, and **28**, the word "figure" should be capitalized (e.g., "Figure 1…", "Figure 2…", etc.).

(d) On **page 5**, **lines 14-15,** the phrase "but the plurality of VLAN shares use of the bridges A, B, C, D, E…" should read "but the plurality of VLANS share use of the bridges A, B, C, D, E…".

Appropriate correction is required.

Claim Objections

4. **Claims 4** and **5** are objected to because of the following informalities:

(a) In **claim 4**, the phrase "...over which the data packet is send" should read "...over which the data packet is sent".

(b) In **claim 5**, the phrase "...over which that data packet is send" should read "over which that data packet is sent".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1-2, 4-5,** and **7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Varghese et al. (U.S. Patent No. 6,560,236 B1)** in view of **Patel et al. (U.S. Patent No. 6,400,950 B1)**.

Consider **claim 1**, Varghese et al. clearly show and disclose a multi-bridge for use in a network that contains a plurality of subnetworks, wherein the multi-bridge comprises: for each subnetwork a set of at least two ports, the multi-bridge being operable to register which of the ports are used by a Virtual Local Area Network (VLAN), wherein the multi-bridge is arranged to forward a data packet which is sent with an identifier that identifies the VLAN to those of the ports that the VLAN is registered to use.

Varghese et al. disclose a network device for interconnecting computer networks (**abstract** and **column 2, lines 1-2**). The network interface includes both a bridge (**column 2, line 3**) and a router (**column 2, lines 20-22**) that together read on the multi-bridge (also see **figure 2** and **figure 4**). The bridge has a plurality of ports through which network communications pass to and from said bridge, and it also includes an interface enabling a user to partition the plurality of bridge ports into a plurality of groups, wherein each group represents a different virtual network (**column 2, lines 3-8**). These groups are identified in both **figure 1** and **figure 2** as VLANs; **figure 2**, in particular, also clearly shows two bridge ports assigned to each VLAN. The bridge also has additional ports (client ports) that connect it to the router, and the router has ports of its own that connect it to the bridge (**figure 2** and **column 2, lines 20-26**). The router includes a source table (see **144** in **figure 4**) that contains a mapping of source

addresses to the virtual networks, in which the source addresses represent locations of stations that are connected to the virtual networks and that send communications to the bridge (**column 2, lines 26-30**). The bridge includes a database (see **146** in **figure 4**) that maps the bridge ports to the virtual networks (VLANs) (**column 2, lines 57-59**). In this way, the bridge-router combination is able to identify the virtual network (or VLAN) from which packets came (**column 2, lines 26-32**), and on which port it arrived. The router-bridge combination is also able, using these mappings, to send communications to a different virtual network (VLAN) than the one from which communications was received (**column 2, lines 17-20**).

However, Varghese et al. do not disclose the claimed invention wherein the multi-bridge is operable to register upon receiving a data packet by one of the at least two ports of a particular set, that the VLAN identified by the identifier of the data packet uses the ports of the particular set, at least when the multi-bridge has not yet registered that the VLAN identified by the identifier of the data packet uses the particular set on which the data packet was received.

In the same field of endeavor, Patel et al. disclose a sample H.323 system (which can include wireless and wireline endpoints) in which each endpoint is registered with a gatekeeper for that system (**see figure 1 and column 1, lines 17-27**). The gatekeeper (**180** in **figure 1**) stores an IP address for each H.323 endpoint that allows the gatekeeper to know where to route the call if a connection to that particular H.323 endpoint is requested (**column 1, lines 20-32**). The H.323 system sends a Registration Request (RRQ) message to the

gatekeeper when a user first logs on (the user is not registered at this point); upon receipt of the RRQ message, the gatekeeper stores the IP routing address of the user in a subscriber record database (**column 3, lines 3-12**; also see **185** in **figure 1**). Now that the user is registered, future calls to the user will utilize the database's address record for the call addressing information (**column 3, lines 12-19**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate an updateable subscriber record database, as shown by Patel et al., in the multibridge that matches ports with VLANs, as taught by Varghese et al., for the purpose of allowing the port-to-VLAN addressing table to be dynamically created, as opposed to statically creating the database, which requires manpower and time and also runs the risk of being inaccurate.

Consider **claim 2**, and **as applied to claim 1 above**, Varghese et al. fail to specifically disclose that the multi-bridge is further operable to de-register on the at least two ports of each set that is different from the set of which one of the at least two ports has received the data packet, if needed, the VLAN over which that data packet is sent. Nonetheless, Patel et al. disclose a procedure in which, if necessary, endpoints can be deregistered from the aforementioned subscriber record database using an Unregistration Request message (URQ) (**column 4, lines 36-47**). In the current H.225 protocol, the URQ message can deregister one particular endpoint from the subscriber record database (**column 4, lines 36-41**). If a URQ message is used for that one particular endpoint (which would

clear (or deregister) all VLAN mappings for that endpoint), and is then followed by an RRQ message for the desired endpoint-VLAN mapping for that particular endpoint, than one can be assured that the particular endpoint is mapped only to the desired VLAN.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a port-VLAN deregistering mechanism, as shown by Patel et al., in the multibridge that matches ports with VLANs, as taught by Varghese et al., for the purpose of helping to assure that a particular port (or port pair) was only registered to one VLAN (and no others).

Consider **claim 4**, Varghese et al. clearly show and disclose a method for allocating a Virtual Local Area Network (VLAN) to one set out of a number of such sets on a multi-bridge, wherein each set comprises at least two ports for a subnetwork out of a plurality of such subnetworks which share the multi-bridge, wherein the method comprises: sending to one of the at least two ports of a set a data packet over a VLAN.

Varghese et al. disclose a network device for interconnecting computer networks (**abstract** and **column 2, lines 1-2**). The network interface includes both a bridge (**column 2, line 3**) and a router (**column 2, lines 20-22**) that together read on the multi-bridge (also see **figure 2** and **figure 4**). The bridge has a plurality of ports through which network communications pass to and from said bridge, and it also includes an interface enabling a user to partition the plurality of bridge ports into a plurality of groups, wherein each group represents a different virtual network (**column 2, lines 3-8**). These groups are identified in

both **figure 1** and **figure 2** as VLANs; **figure 2**, in particular, also clearly shows two bridge ports assigned to each VLAN. The bridge also has additional ports (client ports) that connect it to the router, and the router has ports of its own that connect it to the bridge (**figure 2** and **column 2, lines 20-26**). The router includes a source table (see **144** in **figure 4**) that contains a mapping of source addresses to the virtual networks, in which the source addresses represent locations of stations that are connected to the virtual networks and that send communications to the bridge (**column 2, lines 26-30**). The bridge includes a database (see **146** in **figure 4**) that maps the bridge ports to the virtual networks (VLANs) (**column 2, lines 57-59**). In this way, when the databases are properly populated, the bridge-router combination is able to identify the virtual network (or VLAN) from which packets came (**column 2, lines 26-32**), and on which port it arrived.

However, Varghese et al. do not show or disclose registering the VLAN over which the data packet is sent on each of the at least two ports of the set of which one of the at least two ports has received the data packet (i.e., the actual population of the databases).

In the same field of endeavor, Patel et al. disclose a sample H.323 system (which can include wireless and wireline endpoints) in which each endpoint is registered with a gatekeeper for that system (**see figure 1 and column 1, lines 17-27**). The gatekeeper (**180** in **figure 1**) stores an IP address for each H.323 endpoint that allows the gatekeeper to know where to route the call if a connection to that particular H.323 endpoint is requested (**column 1, lines 20-**

32). The H.323 system sends a Registration Request (RRQ) message to the gatekeeper when a user first logs on (the user is not registered at this point); upon receipt of the RRQ message, the gatekeeper stores the IP routing address of the user in a subscriber record database (**column 3, lines 3-12**; also see **185** in **figure 1**). Now that the user is registered, future calls to the user will utilize the database's address record for the call addressing information (**column 3, lines 12-19**). The same idea can be used to record to populate the addressing part of the databases – i.e., record the port (and port set) on which a data packet has been received, which would directly lead to which VLAN sent the data packet.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate an updateable subscriber record database, as shown by Patel et al., in the multibridge that matches ports with VLANs, as taught by Varghese et al., for the purpose of allowing the port-to-VLAN addressing database to be dynamically created, as opposed to statically creating the database, which requires manpower and time and also runs the risk of being inaccurate.

Consider **claim 5**, and **as applied to claim 4 above**, Varghese et al. fail to specifically disclose a method according to **claim 4**, characterised in that, the method further comprises: de-registering on the at least two ports of each set that is different from the set of which one of the at least two ports has received the data packet, if needed, the VLAN over which that data packet is sent. Nonetheless, Patel et al. disclose a procedure in which, if necessary, endpoints can be deregistered from the aforementioned subscriber record database using

an Unregistration Request message (URQ) (**column 4, lines 36-47**). In the current H.225 protocol, the URQ message can deregister one particular endpoint from the subscriber record database (**column 4, lines 36-41**). If a URQ message is used for that one particular endpoint (which would clear (or deregister) all VLAN mappings for that endpoint), and is then followed by an RRQ message for the desired endpoint-VLAN mapping for that particular endpoint, than one can be assured that the particular endpoint is mapped only to the desired VLAN.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a port-VLAN deregistering procedure, as shown by Patel et al., in the multibridge that matches ports with VLANs, as taught by Varghese et al., for the purpose of helping to assure that a particular port (or port pair) was only registered to one VLAN (and no others).

Consider **claim 7**, and **as applied to claim 1 above**, Varghese et al., as modified by Patel et al., clearly show and disclose a network comprising a multi-bridge according to **claim 1**. Newton's Telecom Dictionary (22nd Edition) defines a network as an entity that ties things together (e.g., in this context, the things that are tied together are computers and things related to computers). **Figure 2** of Varghese et al. shows the router-bridge combination (read in **claim 1** as the multibridge) connecting together the various VLANs. The router-bridge combination (or multibridge) is clearly behaving as a network tying together the various VLANs.

8. **Claims 3** and **6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Varghese et al. (U.S. Patent No. 6,560,236 B1)** in view of

Patel et al. (U.S. Patent No. 6,400,950 B1), as applied to claim 2 above, and further in view of **Berg et al. (U.S. Patent Number 6,674,713 B1)**.

Consider **claim 3**, and **as applied to claim 2 above**, Varghese et al., as modified by Patel et al., clearly show and describe the claimed invention except for where the multi-bridge is further operable to provide an alarm signal if within a predetermined time span and by a predetermined number of times one VLAN is successively registered and de-registered on one set.

In the same field of endeavor, Berg et al. clearly show and disclose a session manager whose purpose is to manage sessions in order to maintain connectivity between a media gateway controller and a gateway (**column 8, lines 35-39**). The session manager provides several mechanisms and checks, among which are the ability to monitor the frequency of how often the session is switched and recovered (**column 9, lines 1-2**). Specifically, the session manager contains a counter called "sm_unstable_session" which counts session recoveries. If 20 session recoveries occur in a period of 60 minutes or less, the system is determined to be unstable and an alarm is triggered (**column 16, lines 10-14**). This clearly meets the requirement of providing an alarm signal if an event occurs within a predetermined time span and by a predetermined number of times, and such a counter could be applied to the registering and deregistering of VLANs in the database.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate an alarm sensing and triggering mechanism, as shown by Berg et al., in the multibridge that matches

ports with VLANs, as taught by Varghese et al., as modified by Patel et al., for the purpose of providing an improved fault detection and management system in the device of interest.

Consider **claim 6**, and **as applied to claim 4 above**, Varghese et al., as modified by Patel et al., clearly show and describe the claimed invention except for where the method comprises providing an alarm signal if within a predetermined time and by a predetermined number of times one VLAN is successively registered and de-registered on one set.

In the same field of endeavor, Berg et al. clearly show and disclose a session manager whose purpose is to manage sessions in order to maintain connectivity between a media gateway controller and a gateway (**column 8, lines 35-39**). The session manager provides several mechanisms and checks, among which are the ability to monitor the frequency of how often the session is switched and recovered (**column 9, lines 1-2**). Specifically, the session manager contains a counter called "sm_unstable_session" which counts session recoveries. If 20 session recoveries occur in a period of 60 minutes or less, the system is determined to be unstable and an alarm is triggered (**column 16, lines 10-14**). This clearly meets the requirement of providing an alarm signal if an event occurs within a predetermined time span and by a predetermined number of times, and such a counter could be applied to the registering and deregistering of VLANs in the database.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate an alarm sensing and

triggering mechanism, as shown by Berg et al., in the multibridge that matches ports with VLANs, as taught by Varghese et al., as modified by Patel et al., for the purpose of providing an improved fault detection and management system in the device of interest.

Conclusion

9. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

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Alexandria, VA 22314

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Terence Moore whose telephone number is (571) 270-1775. The Examiner can normally be reached on Monday-Friday from 7:30 am to 5:00 pm (alternate Fridays off).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-

7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Terence Moore
T.M./tm

March 6, 2007